

# Let's Go Team!

## TEACHER SECTION

**Grade Level:** 5-8

**Subject(s):**

Physical Education,  
Problem Solving

**Prep Time:**

10-30 minutes

**Duration:**

One class period

**Materials Category:**

Special

### Objective

To learn the importance of each member's role while doing team activities.

### National Education Standards Science

*Science as inquiry*

- Abilities necessary to do scientific inquiry

### Pre-lesson Instructions

- Duplicate the Student Page (one per group).
- Use masking tape to attach a plastic spoon to a wooden dowel. Make enough for half of the class to have one dowel each.
- Get enough wood pieces for half the class to have a piece. For added difficulty, use 10 cm x 10 cm (4 in. x 4 in) wood with rounded edges.
- Have students work in teams for these activities. Each group should have six to eight students. If possible, divide your class into four groups.

### Background Information

Working in Mission Control is an important job that requires many skills. Knowing how different spacecraft work and how to keep them running are things that workers in Mission Control must know. Other skills for this job include leadership and the ability to work independently. They must also be responsible, able to handle complex tasks and able to work well with others.

The need for teamwork also applies to astronauts, especially when they have to live together on the International Space Station (ISS) for extended periods of time. At the time of this interview the Expedition 8 crew had been living on the ISS for about five months, with no visitors. Both men said that there are advantages of being part of a two-person crew, as long as crew members are carefully chosen and are able to get along well together.

Image to right: When you work together as a team, everybody wins!

"I can tell you that a two crew-member crew is a very simple crew," Expedition 8 Flight Engineer Sasha Kaleri said. "And, both crew members are in the same and similar conditions. When we have more people, then you can build coalitions, so to speak, and kind of group and regroup, and psychologically, it is more demanding. This is why I think that a two crew member crew is a very simple crew, and it's easier psychologically. The more crew members we have, the more difficult it is."

Expedition 8 Commander Mike Foale said that, based on his experiences, as NASA begins planning missions to other worlds, the agency should consider smaller crews for those trips. "Obviously, it's limited by the life support systems that you're taking to Mars with you and attempt to use on Mars to survive there," he said. "It can't be more than three to five. As Sasha [Kaleri] says, two persons [don't] have the coalitions, but I imagine a Mars crew will probably need some redundancy in the crew as well. To that extent, you have to have a bigger crew than two. So, three, five, maybe seven."

In this lesson, students will work together in groups during two team-building activities. These activities will allow the students to observe group dynamics in action. After the activities, the students will complete a questionnaire to see if certain students took on different roles in the team.

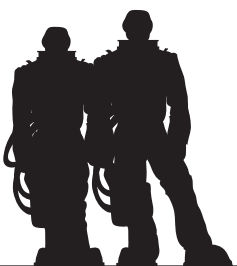


### MATERIALS

- Plastic spoons
- Wooden dowels [between 61 and 91 cm (2 and 3 ft) in length]
- Plastic cups
- At least 100 spherical objects (marbles, beads, etc.)
- Masking tape
- Pieces of wood cut to lengths of 30 or 45 centimeters (cm) (1 or 1.5 feet [ft])



RETURN TO FLIGHT





### Guidelines

1. Discuss the importance of working as a team in Mission Control and on the ISS. Ask the class to think of other times when teamwork is important.
2. As a class, discuss the coalitions that may form on long space missions. Have students think of examples of this in their everyday lives, such as cliques at school, coalitions on reality TV shows, etc.
3. Discuss how this type of activity might be a problem on long-duration spaceflights, like a trip to Mars.
4. Explain that the class will be doing a few exercises to demonstrate the importance of teamwork.
5. Divide the class into groups.
6. Move to an open area for the activities, such as a gym, a hallway or outdoors.
7. Discuss the activities with the class. The instructions are below. If possible, have two groups participate in one activity, while the other two groups participate in the other. When complete, have the groups switch activities.
8. Once students have completed the activities, distribute the Student Page. Go over the instructions and answer questions as needed.
9. Allow time for students to complete the Student Page.

### Activity One: Don't Lose Your Marbles!

Use the masking tape to mark out a circle on the floor, about 3 meters (m) (10 ft) in diameter. Have two groups sit around the edge of the circle, evenly spaced (not clustered together). Give each student a dowel with a spoon attached and a plastic cup. Spill the marbles into the center of the circle. Instruct students to collect the marbles with their spoons from the circle and place them into their cups. When all of the marbles have been removed from the circle, count the marbles. The team with the most marbles wins.

**Note:** As they attempt to pick up the marbles, the students will discover that they cannot scoop up the marbles into their own spoons. They must work together by pushing the marbles into someone else's spoon.

### Activity Two: Traveling Through Interplanetary Space

Place two masking tape lines on the floor, 3 m (10 ft) apart. One of these lines will be the starting line; the other will be the finish line. Explain that the teams must move their vehicles from one line to the other without touching the ground. This can be done by standing on their blocks of wood (their vehicles) and moving them without their feet touching the ground. The area between the lines is interplanetary space. Give each team one less block of wood than the number of team members. The teams must work together to cross the interplanetary space as a team. No one can be left behind. If any team member touches the ground, the team must start over at the starting line. Also, since the team is traveling through space, one of the team members must be in contact with each of the wooden blocks at all times. If a block of wood is left "floating" (not in contact with any team member), it will be lost, and the team must continue without it. The first team to span the interplanetary space is the winner.

### Discussion/Wrap-up

- Discuss the team-building activities with the class. How did the games make them work together? Could they have completed the tasks on their own? Did someone in the group take a leadership role?
- Discuss the students' answers to the Student Page. Student answers will vary.
- Lead a class discussion on group dynamics.
- Ask students, "How do these games relate to working together in Mission Control?"

### Extensions

- Perform different activities in groups. Vary group size to see how the number of people in a group affects group dynamics.





### Procedure

After completing the team-building activities, answer the following questions about how your team worked together to complete the activities.

1. Listed below are some of the roles that people often take when working in a group situation. Beside each role, write the name(s) of people in your group who took on that role during the team-building activities.
2. Did other people in your group take on roles that are not listed below? If so, fill in their names and their assumed roles in the blank spaces.

Teamwork Role	Team Member Name(s)
Leader	
Motivator	
Team Worker	
Organizer	

3. On a separate sheet of paper, list the characteristics and duties of each team role.
4. Did anyone in your group form coalitions? Explain how this may have affected the ability of your team to function.
5. What do you think is the ideal crew size for a trip to Mars? Explain your answer.

